

CHAPTER 2 – ISSUES AND ALTERNATIVES

This chapter identifies the issues determined to be important in this analysis. This chapter also describes and compares the alternatives considered for the Hoback Ranches project area. It includes a description of each alternative considered and presents the alternatives in comparative form, defining the differences between each alternative and providing a basis for choice among options (40 CFR §1502.14). Some of the information used to compare the alternatives is based upon the design of the alternative and some of the information is based upon the environmental effects of implementing each alternative.

Public Involvement and Development of Issues

Scoping is described as an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action (40 CFR §1501.7). In addition to determining the scope and the significant issues to be analyzed in depth, scoping also helps to identify and eliminate from detailed study the issues that are not relevant including those that have been covered by prior environmental review.

A public meeting was convened during the hazard assessment and mitigation plan phase of the project on July 17, 2002, at the Bondurant Fire Hall in Bondurant, Wyoming. Announcements about the meeting were published in the local newspaper and posted in public places such as the Hoback Ranches notice and information boards. During the public meeting, FIREWISE brochures were handed out and information was provided to attendees. Information was obtained from the community on hazardous fire situations and desired conditions. In addition, as part of the public involvement process, interviews were conducted with residents and numerous local public officials, including the County Fire Warden, Emergency Management Director, County Sheriff, and Forest Service and State of Wyoming Forestry Division employees (BLM 2002). An additional public meeting was held in September 2002, in Pinedale, Wyoming to review and receive public input on the draft Mitigation Report.

Using the comments from the public and other agencies, in conjunction with the field-related resource information, and field surveys of the proposed project area, the Forest Service and BLM interdisciplinary team (IDT) developed a list of relevant issues to address (40 CFR §§ 1500.4 and 1501.7). Issues are addressed in the Proposed Action, alternatives to the Proposed Action, mitigation measures, and design criteria. The following issues were determined to be significant and within the scope of the project decision:

- Soils
- Fuels/Fire Hazard
- Visual Resources
- Air Quality
- Water Quality
- Noise
- Noxious Weeds/Invasive Species
- Threatened, Endangered, and Proposed Federal Species
- BLM and Forest Service Sensitive and Management Indicator Species
- Cultural Resources

The Predecisional EA was made available for public review in April 2004. Based on comments received, another alternative (Alternative 6) was included in the final analysis.

Alternative Development Process

The IDT initially proposed three broadly defined action alternatives for consideration for the Hoback Ranches project area through assessment of the findings of the Mitigation Report (BLM 2002). Information in the Mitigation Report was acquired from fuel and structure surveys, town meetings, and interviews of community officials. The items of concern that were identified by this report included fuel loads, vegetation types currently present, and historic vegetation types for the project area. Specific locations for treatments were not defined, but these served as guidelines for the development of more detailed alternatives. In addition to the No Action Alternative, the three alternatives that were initially discussed by the IDT are:

- Twenty miles of shaded fuel breaks (87 to 102 BLM acres and 150 Forest Service acres).
- Twenty miles of shaded fuel breaks (58 BLM acres and 150 Forest Service acres).
Additional forest treatments would include prescriptions for up to 500 BLM acres and 2700 Forest Service acres over a 10-year period.
- Twenty miles of shaded fuel breaks (58 BLM acres and 150 Forest Service acres).
Additional forest treatments would include prescriptions for up to 1000 BLM acres and 2700 Forest Service acres over a 10-year period.

Forest treatment under the latter two alternatives would: include construction of up to 6 miles of temporary roads; removal of approximately half of the trees (basal area) and half of the ground vegetation; leaving large well-formed dominant trees and removing smaller trees; eliminating ladder fuels; leaving 5-6 snags per acre, clustered as much as possible; performing a pre-commercial thinning (12' X 12' spacing) on about 40 acres; and hand piling and burning slash. Harvest method considerations for these two alternatives were largely to be determined by slope and access, with helicopter logging a possibility. Mitigation measures include water bars on all skid trails; roads with a 12 foot running surface; ripping, water barring, and seeding all temporary roads; pile and slash burning in thinned areas; and 60-80 percent slash burning with the remainder used for nutrient cycling and erosion control.

These general forest treatment guidelines and mitigations were considered and further refined by the IDT following the collection of project specific fuels information. Site-specific fuels information was obtained from intensive surveys of the project area completed by North Wind, Inc. in 2003. (This complete data set is stored in the project files at the Forest Service and BLM Offices.) Information gathered included observations about stand health including presence of insects and disease, species composition, average tree height, average tree diameter, stocking levels, and average age of the trees. Recommended silvicultural systems that incorporate landing locations, a cutting cycle, and a travel management plan, were developed for each compartment. This information is included in Appendix C for BLM lands and in Appendix D for Forest Service lands. In addition to the No Action Alternative, five actions alternatives were developed (one of these was based on comments received during the public comment period for the Predecisional EA) for timber treatment activities within the project area based on this site-specific information. These alternatives represent a reasonable range of implementable actions that meet the purpose and need of the project. Each of the action alternatives considered are structured to reduce fuels

in and around the project area. The extent and location of the treatments and the method of harvest are the main factors that vary among the alternatives.

The project area is 14,710 acres in size and consists of private (6,434 acres), BLM (2,316 acres), and Forest Service (5,960 acres) lands. There are approximately 42.1 miles of existing roads in the project area. Depending on the alternatives chosen, some of the existing roads would need some level of improvement to make them useable during forest treatment implementation and some new roads would need to be constructed. Further details, including maps, are provided below as part of the description of the alternatives. All alternatives are consistent with the Pinedale RMP and the Bridger-Teton Forest Plan.

Alternative 1 NO ACTION

Analysis of a No Action Alternative is required by NEPA (40 CFR §1502.14d). The No Action Alternative provides the baseline for the rest of the environmental analysis. Under the No Action Alternative, no fuels reduction would be implemented to accomplish project goals. The project area would remain subject to natural or ongoing changes only. Presence and increase of invasive species would still exist because the existing environment is not static. The Sublette County Fire Department, along with the BLM and Forest Service for fires on public lands, would continue to fight wildland fires in the area in an attempt to protect the environment and the Hoback Ranches community; however, no firebreaks would be created to aid in fire suppression. Chapter three contains a detailed description of the current environmental conditions.

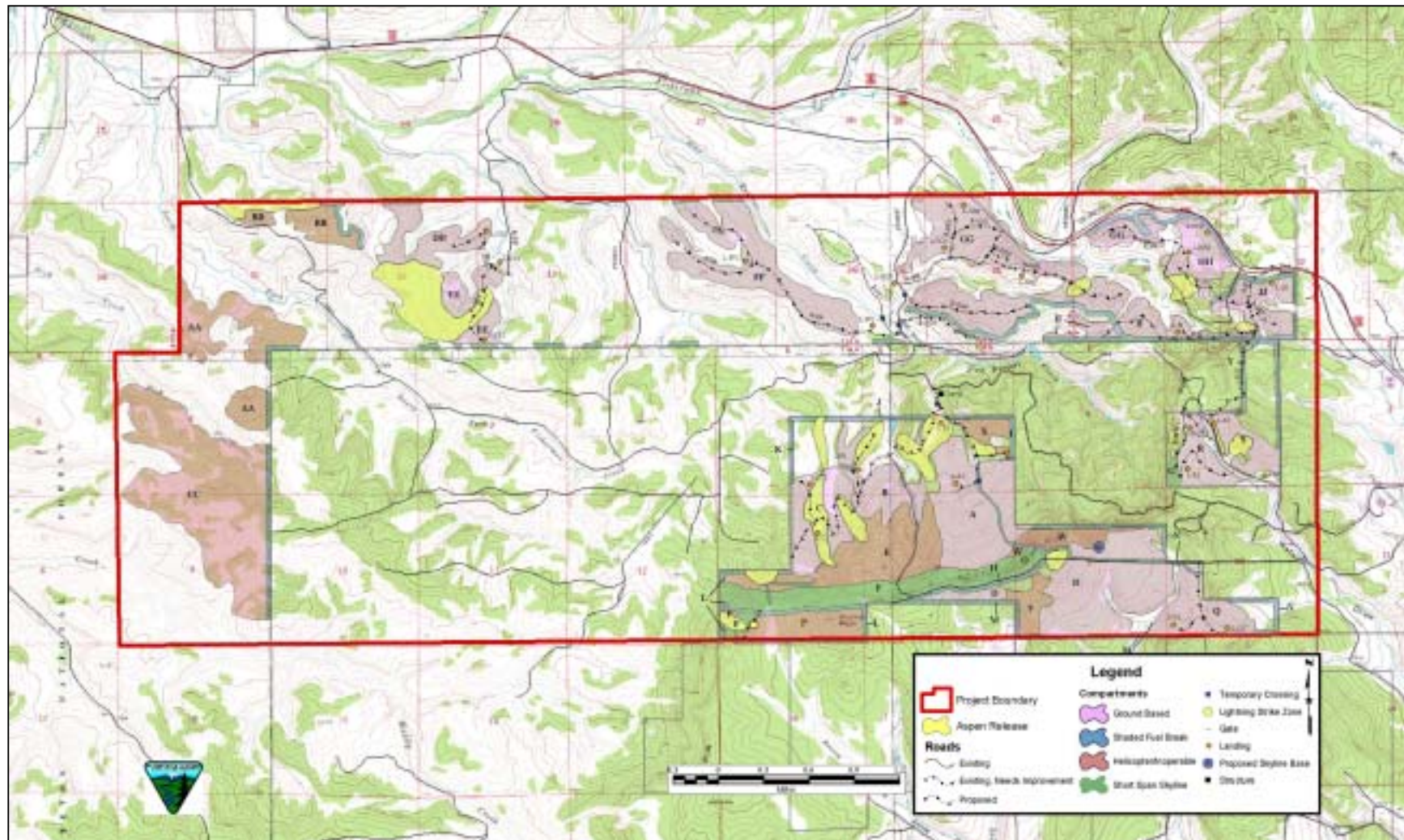
Alternative 2 PROPOSED ACTION

Under the Proposed Action, approximately 3,803 acres would be treated (1,959 BLM and 1,844 Forest Service). Of the acreage associated with the Proposed Action, 2,071 acres would be treated using ground-based yarding systems, 376 acres would be hand-cut fuel breaks, 1,155 acres would be helicopter logged, and 201 acres would be treated by short span skyline. The locations for these treatments are shown in **Figure 2**. More specific harvest prescription information for each mapped compartment is discussed in **Appendices C and D**.

In the areas designated as shaded fuel breaks, all trees would be removed except for some “shade” trees. Shaded fuel breaks are areas where large shrubs and understory trees are removed to create an area relatively free of midlevel fuel. Grasses, forbs, and low-flammability shrubs may be left to control soil erosion. Certain trees may also be left for aesthetic appeal. The shaded fuel breaks would take advantage of topographic features and preexisting roads.

The width of the fuel breaks would vary between 300 and 500 feet depending on vegetation and terrain. The center of the fuel break would be ~100 feet in width and would resemble a shaded open park-like atmosphere. Tree spacing on each side would be feathered back to a natural forest starting with about 50 foot spacing in the middle and a little tighter on the edges.

Figure 2. Proposed Action



All operable acres should be thinned from below to an average basal area of 60 square feet per acre. This basal area corresponds to an average of 30 trees per acre with an average D.B.H. of about 19 inches. Spacing would be about 38 feet between trees if spacing were uniform, which is unlikely. The result of the treatment is an open, park-like stand. It is critical that all woody surface materials and ladder fuels be cleared within this fuel break area.

Thinning, selective removal of living, diseased, and other trees would occur in selected areas to decrease stand density while giving consideration to recreation, viewshed, and wildlife habitat. Conifers would be removed from aspen stands to improve the health of stands where encroachment has occurred. For all areas scheduled for thinning treatment, this alternative would require piling of slash and ultimately burning of piles. Standard Federal environmental and silvicultural methods would be applied and requirements would be met. This action would be implemented over the next 10 years.

Under this alternative, approximately 11.3 miles of new roads would need to be constructed (3.2 miles would be on BLM land and 8.1 miles would be on Forest Service land) and 6.4 miles of existing roads would need some level of improvement or reconstruction. Five stream crossings have been identified as part of this alternative. Three are on existing roads, one would be on a road needing improvement, and one would be on a new road. All of these crossings are in the headwaters above fish-bearing portions of the streams and are not expected to negatively impact water quality or fisheries habitat. Standard BMPs would be used to mitigate the sediment impacts from road construction.

The overall goal of the Proposed Action, and all of the action alternatives, is to increase the amount of defensible space on Federally-managed lands that are adjacent to the Hoback Ranches community. The fuel reductions associated with the Proposed Action are designed to promote wildland firefighter and public safety, as well as increase the defensibility of private lands and structures in the WUI area, and would ultimately lessen the probability of a high severity wildfire. The Proposed Action would reduce the crown fire hazard by reducing fuel loadings and available canopy fuels as well as crown base heights in the project area. The reduction in the amount of hazardous fuels would significantly reduce the intensity of wildland fires within the treatment areas under all but the most severe burning conditions. A maintenance schedule is proposed to identify time frames for re-entry into treatment areas to keep fuel volumes at a level that maintains the desired lower fuel volumes and the associated lower probability of severe wildland fire for the project area (*Appendices C and D*).

Cost of implementation of any of the action alternatives has not been determined. Different methods of implementation and extent of the treatments would be the variables with the most impact on cost. In general, the more acres proposed for treatment and the more implementation methods proposed, the greater the cost. Using that rationale the Proposed Action would be the most costly action alternative. Implementation would take place over several years, which would result in the cost being spread out over that time period. Treatment costs would be partially offset by the sale of forest products in the form of house logs, sawlogs, post and poles, and firewood.

Mitigations Associated With All Action Alternatives

BLM use mitigation and preventative measures in the planning and implementation of land management activities. Measures associated with the action alternatives have been formulated to mitigate or reduce adverse impacts. These measures have been tested on past harvest and temporary road actions and have proven effective at minimizing impacts to resources.

Mitigations are documented at the Pinedale Field Office and the Big Piney Ranger District.

Some of the mitigations identified for this project include, but are not limited to, the following:

- All skid trails will be water barred.
- Roads will be ripped, water barred, and seeded.
- Measures will be taken to prevent use of roads, reclaimed roads, skid trails, and shaded fuel breaks from unauthorized vehicle travel by blocking (with boulders) or gating.
- Sixty to eighty percent of slash will be burned with the remainder left in place for nutrient cycling and erosion control. Slash burning will meet Federal and State air quality standards.
- Seeps, springs, wetlands, and riparian areas will be identified and standards will be observed when determining buffer distance for harvest activities near these areas.
- To minimize introduction of noxious weeds and the risk of erosion following harvest activities, disturbed areas will be seeded with an appropriate seed mix containing native vegetation, which has been reviewed and approved by the Forest Service and BLM.
- Coarse woody debris may be retained within each fuel reduction area at or above five to seven tons per acre to maintain soil productivity and provide wildlife habitat elements.
- Snags (of the largest diameter available) will be maintained within each fuel reduction area at or above four to six per acre, when available and will be left in clusters as much as possible.
- If a nest, den, or important site for any threatened, endangered, or sensitive species is found within the project area, activities may need to be curtailed or additional restriction imposed to avoid effects. Such decisions will be made jointly between Forest Service, BLM, and U.S. Fish and Wildlife Service (USFWS) biologists.
- Section 5 and 6 (T 36 N, R 112 W) is within a protected elk parturition area and will be closed to any surface desterbing activity from May 1 to June 30.
- Appropriate trash and food storage and disposal procedures will be implemented to minimize any potential conflicts with grizzly bears. Crews will be required to keep a sanitary work site and environment at all times. Waste materials at the work site shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, etc.
- All fire danger work restrictions imposed on Forest Service and BLM lands will adhered to and strictly enforced.
- One hundred and fifty foot buffers will be established along perennial and intermittent streams and wetlands (if any occur in the project area), to ensure that no fuels treatments occur in those areas.
- The selected alternative will be subject to Section 106 of the National Historic Preservation Act and all proposed developments will be subject to a Class III level cultural resource inventory.

Monitoring Requirements Associated With All Action Alternatives

Monitoring will occur to assess whether the project was implemented as designed and whether it complies with the respective agency requirements. The monitoring objective for this project is to assess the success of implementation. A successful reduction in fuel loadings and flammability of the treatment areas, in addition to favorable public opinion regarding the implementation, would indicate the desired results. Monitoring of treated sites will occur in designated increments to assess maintenance of the project area in order to retain treatment-achieved stand characteristics. Monitoring for noxious weeds will also occur in all disturbed areas, particularly in areas where slash piles were burned.

Alternative 3 NO HELICOPTER LOGGING

This alternative would not use helicopters to log any of the project area. This alternative was developed in order to make the vegetative treatment more economically feasible. Helicopters can be used to extract logs from forest areas that would otherwise be inaccessible due to difficult terrain or from environmentally sensitive areas where ground-based and cable systems are undesirable or not possible. With helicopter logging methods, there is no exposed ground surface inside the logging block due to the absence of skid trails or cableway corridors. However, helicopter logging has, to date, proven more expensive per unit volume than conventional logging and therefore may be cost-prohibitive for some operations. Under this alternative, 2,648 acres would be harvested. This alternative would harvest the same areas as in Alternative Two using the same methodology and mitigations, except the identified helicopter logging areas would be omitted (*Figure 2*). Road construction and improvements would also occur under this alternative and would total 11.3 and 5.7 miles, respectively. Road construction would be needed to reach some areas and to provide access into areas where landings would be constructed to minimize the distance that trucks have to haul the logs.

Alternative 4 NO NEW ROAD CONSTRUCTION

Under this alternative, no new roads would be constructed. This alternative also excludes the helicopter logging as described in Alternative Three. This alternative was developed to limit potential sedimentation issues and costs associated with building and rehabilitating temporary roads. This alternative would reduce the number of acres treated to 1,299. Under this alternative, 5.7 miles of road improvements are proposed. The same methodologies and mitigations described in Alternative Two would be applied.

Alternative 5 SHADED FUEL BREAKS ONLY

This alternative would only treat areas identified in *Figure 2* associated with the shaded fuel breaks. This alternative would only treat approximately 376 acres of forested land, but would meet the purpose and need by reducing fuel loads directly at the wildland-urban interface zone between Federal and private lands. No road construction or improvement would be needed under this alternative. Applicable methodologies and mitigations described in Alternative Two would be applied.

Alternative 6 MODIFIED GROUND-BASED

Alternative 6 was developed in response to public comments received on the Predecisional EA and subsequent treatment alterations recommended by the governing agencies. Alternative Six is a slight modification of Alternative 3 (No Helicopter), which itself is a modification of the Proposed Action. Under Alternative 6, the fuel breaks (187 acres) and ground based thinning (1032 acres) for Forest Service land would occur as described in Alternative 3. However, a slight modification of treatment would occur on BLM land, where up to six miles of shaded fuel breaks (220 acres at 300 feet) would be created at strategic locations throughout the project area (especially around dwellings); and thinning and forest health treatments prescriptions would occur for up to 1000 acres over a 10-year period. Therefore, a total of 2,439 acres would be treated under this alternative.

The shaded fuel breaks would be placed in areas that best utilize the logical terrain and use natural openings were ever possible. The exact placement of the shaded fuels break would be determined by BLM and Forest Service Specialists to lesson impacts to wildlife habitat, recreation, and residents of Hoback Ranches while providing the most effective fire protection to the community. The shaded fuels breaks would be constructed in the manner outlined in the Proposed Action.

In the areas where thinning is planned to improve forest health, selective removal of living, diseased, and other trees would occur to decrease stand density while giving consideration to recreation, viewshed, and wildlife habitat. Conifers would be removed from aspen stands to improve the health of aspen stands where encroachment has occurred. For all areas scheduled for thinning treatment, this alternative would require piling of slash and ultimately burning of piles. Standard Federal environmental and silvicultural methods would be applied and requirements would be met. This action would be implemented over the next 10 years.

Access to the BLM managed land will be through the Millers property south of the Hoback Ranches community. The proposed access through the Capron property will not be used to comply with the no commercial traffic covenants of Hoback Ranches. Approximately 3.2 miles of new roads would need to be constructed on BLM lands and 8.1 miles of new road would be constructed on Forest Service land. To facilitate the operations described in this alternative, 3 miles of existing roads on BLM lands and 3.4 miles of existing road on Forest Service lands would need some level of improvement or reconstruction. Five stream crossings have been identified as part of this alternative. Three are on existing roads, one would be on a road needing improvement, and one would be on a new road. All of these crossings are in the headwaters above fish-bearing portions of the streams and are not expected to negatively impact water quality or fisheries habitat. Standard BMPs would be used to mitigate the sediment impacts from road construction.

Alternative Comparison

Table 1 provides a comparison of the degree of action associated with each alternative. The acres treated and miles of road construction and improvements are identified for each alternative.

Table 1. Extent of Treatment for Each Alternative

Alternative	Acres Treated	Miles of Road Construction	Miles of Road Improvements
Alt. 1 - No Action	0	0	0
Alt. 2 - Proposed Action	3803	11.3	6.4
Alt. 3 - No Helicopter Logging	2648	11.3	5.7
Alt. 4 - No Road Construction	1299	0	5.7
Alt. 5 - Shaded Fuel Breaks Only	376	0	0
Alt. 6 - Modified Ground-Based	2439	11.3	6.4

Table 2 provides a summary of the direct effects of implementing each alternative. Information presented is focused on resources for which different levels of effects or outputs can be distinguished among alternatives. The terms “High”, “Moderate”, and “Low” are used to depict the potential level of direct effect. For example, a low rating for water quality might mean that no BMPs or mitigations would be necessary to protect the resource. Whereas a moderate rating may indicate that some kind of screening would be needed and a high rating may indicate that cobble might have to be added in addition to screening in order to keep the stream bed from becoming embedded. These environmental consequences are discussed in detail in Chapter Three.

Table 2. Comparison of Direct Effects by Alternative

Resource	No Action	Proposed Action	No Helicopter Logging	No Road Construction	Shaded Fuel Breaks Only	Modified Ground-Based
Soils	Low	Moderate	Moderate	Low	Low	Moderate
Fuels/Fire Hazard	High	Low	Low	Low	Moderate	Low
Visual Resources	Moderate	Moderate	Moderate	Low	Low	Moderate
Air Quality	Low	Moderate	Low	Low	Low	Moderate
Water Quality	Low	Moderate	Low	Low	Low	Moderate
Noise	Low	Moderate	Low	Low	Low	Moderate
Noxious Weeds	Moderate	Moderate	Moderate	Low	Low	Moderate
Special Status Species	Low	Moderate	Moderate	Low	Low	Moderate
Cost	Low	High	Moderate	Moderate	Low	Moderate